NIH NATIONAL CANCER INSTITUTE

PEPTIDE INHIBITOR OF P38 MAPK SIGNALING FOR THE TREATMENT OF INFLAMMATORY AUTOIMMUNE DISEASES AND INFLAMMATORY CANCERS

SUMMARY

The National Cancer Institute's Laboratory of Immune Cell Biology seeks partners interested in licensing or collaborative research to co-develop peptide-based therapeutics for inflammatory autoimmune conditions or inflammatory cancers.

REFERENCE NUMBER

E-281-2012

PRODUCT TYPE

- Therapeutics

KEYWORDS

- Inflammation
- autoimmune
- inflammatory cancers
- p38 map kinase
- Gadd45a

COLLABORATION OPPORTUNITY

This invention is available for licensing and co-development.

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DESCRIPTION OF TECHNOLOGY

Growth arrest and DNA-damage-inducible protein GADD45 alpha (Gadd45a) is a protein involved in the p38 MAP kinase signaling pathway. Inventors at the NCI have developed a 15 amino acid peptide fragment of Gadd45a that retains the functionality of Gadd45a by inhibiting enzymatic activity of tyrosine-323-phosphorylaled p38 *in vitro*. The peptide is modified to make it cell permeable and exhibits minimal toxicity *in vitro*. The fragment readily penetrates T cells to inhibit (a) proliferation in response to T cell receptor-mediated stimulation; (b) skewing of T cells to Th I and Th 17 cells; and (c) inflammatory cytokine production. As a result, this fragment has anti-inflammatory properties and has potential as a therapeutic for inflammatory autoimmune conditions or inflammatory cancers, such as pancreatic

cancer.

POTENTIAL COMMERCIAL APPLICATIONS

- Treatment for inflammatory autoimmune conditions or inflammatory cancers, such as pancreatic cancer.

COMPETITIVE ADVANTAGES

- Minimal cellular toxicity

INVENTOR(S)

Jonathan Ashwell (NCI)

DEVELOPMENT STAGE

- Discovery (Lead Identification)

PATENT STATUS

- **U.S. Issued:** US Patent 9,359,418

THERAPEUTIC AREA

- Cancer/Neoplasm
- Immune System and Inflammation